Project Baseline Summary Report

Data Source: **EM CDB** Report Number: **GEN-01b**

Operations/Field Office: **DOE National Program** Print Date: **3/9/2000**

Site Summary Level: **DOE National Program** HQ ID: **0161**

Project **HQ-TMHQ1 / Transportation and Packaging Management**

General Project Information

Project Description Narratives

Purpose, Scope, and Technical Approach:

The National Transportation Program develops and maintains the DOE baseline transportation resources, including policy, to assure the availability of safe, regulatory compliant, economical, efficient and timely transportation for DOE materials, including radioactive and other hazardous materials and wastes, through: (1) identification of transport needs of all DOE programs, particularly in supporting EM's focus on accelerating site cleanup and supporting mission requirements at DP, RW, and NE; (2) resolution of transport issues at the program level; (3) maintenance of a corporate institutional program to interact with national and regional stakeholders; (4) vigorous examination of all projected DOE material flows; (5) conduct of a forward-looking, aggressive transportation technology program to resolve complex transportation and packaging problems and confront regulatory excesses; and (6) operational management of all packaging and shipping activities both on and off-site (excluding weapons and weapon components). In addition, this program comprises the corporate point of contact and management for interface and exchange by DOE with external parties, other Federal agencies, consensus standards organizations, and regulatory of transportation matters. While the transportation, packaging, and emergency management activities are DOE-wide functions, the programs will be significantly influenced by the Accelerating Cleanup: Paths to Closure plan.

The Department's transportation and packaging activities are one of the most heavily regulated functions because of the hazardous materials (particularly radioactive) that are shipped. Noncompliance with regulations carries heavy penalties (both criminal and civil). Transportation is an area of public scrutiny due to the perceived hazards associated with the transportation of DOE materials.

Transportation and packaging activities with DOE are covered primarily under 41 and 49 U.S.C., the Department of Transportation (49 CFR), the Nuclear Regulatory Commission (10 CFR), and the Environmental Protection Agency (40 CFR). In addition, there are numerous DOE Orders governing transportation and packaging activities including DOE Order 460.1 "Document Packaging and Transportation Safety," and DOE Order 460.2 "Departmental Materials Transportation and Packaging Management."

The NTP workload is defined and maintained in a program work breakdown structure (WBS), which serves as the common framework for authorizing, planning, scheduling, budgeting, measuring, and reporting work performance for an integrated program.

Program Integration: The focus of Program Integration is to develop a comprehensive, complex-wide emphasis for the Department's transportation activities. This includes a systems engineering approach for determining transportation and packaging needs and efficiencies, particularly in supporting EM's Focus on Accelerating Cleanup: Paths to Closure plan. It includes corporate institutional and outreach activities with state and tribal governments and the public to promote understanding and acceptance of DOE's transportation operations, and to identify and resolve issues in specific transportation shipment planning. It also includes participation in the EM integration effort for internal coordination and providing consistent and systematic campaign planning support and technical assistance for programs across the DOE complex. The goal is to achieve a forward-looking, system-wide assessment of the Department's transportation and packaging needs, and to provide consistent campaign planning to assure DOE policy and transportation objectives are met. Drivers include, but are not limited to: The Department's emphasis on integration across programs; Environmental Protection Agency regulations (40 CFR, parts 300-373) on Community Right to Know, which requires DOE to provide information regarding shipments to stakeholders; The Executive Order on Government to Government relations, 1994, and the DOE American Indian Policy, 1994, which require establishing direct relationships and consultation with tribal governments impacted by transportation, including participation in

Project Description Narratives

planning, information and training; and DOE Order 460.2 "Departmental Materials Transportation and Packaging Management" which requires a transportation plan for spent fuel and high level waste shipments, and notification of states and tribes prior to shipments.

Operations Support: Operations support activities provide a comprehensive and coordinated effort to achieve the goal of having safe, environmentally complaint, and cost effective transportation system and operations. Activities include: assure compliance with all applicable Federal and DOE transportation and environmental regulatory requirements, and support a comprehensive transportation safety effort; provide oversight of transportation and packaging operations for all DOE materials to, from or between DOE facilities, except weapons and weapons components; provide a nation-wide transportation information system and communications infrastructure that collects, disseminates, and archives reliable transportation information throughout DOE, and provides this information to other Federal, state, tribal, and local agencies as requested. Drivers for these activities include, but are not limited to: DOT regulations (49 CFR, parts 100-180) on hazardous materials transportation which requires DOE to meet regulations for preparation of hazardous materials for transport, to meet shipping container specifications, and qualification and maintenance of packaging. DOT regulations (49 CFR, parts 350-399) on Federal Motor Carrier Safety regulations, which require DOE to meet a wide range of safety regulations such as, vehicle markings, vehicle requirements, accident procedures, receipts and bills, and qualification of drivers. The Nuclear Regulatory Commission regulations (10 CFR, parts 71 and 73) on packaging and transportation of radioactive material which requires DOE to track shipments and follow notification protocols. Environmental protection Agency (EPA) regulations (40 CFR, part 262-264) on generators of hazardous waste, which requires DOE to meet hazardous waste manifest requirements and pre-transport requirements. EPA regulations (40 CFR, parts 1500-1508) on National Environmental policy Act reviews, which require risk assessment of transportation impacts for federal actions. In addition, DOE Order 460.1 "Document Packaging and Transportation Safety" applies which specifies safety requirements for proper packaging and transportation of DOE on-site and off-site shipments. Also, DOE Order 460.2 "Department Materials Transportation and Packaging Management" (see description above).

Package and Technology Services: The focus of the Package and Technology Services activities is to provide the Department's technical base program to support transportation and packaging requirement needs. Activities include: 1) providing a mechanism for identification, analysis, and resolution of transportation and packaging issues to support programmatic needs of DOE; 2) conduct an aggressive, applied transportation technology program to resolve complex transportation and packaging system problems, and to present the DOE technical position before regulators and consensus standards bodies; 3) provide package and material testing analytical capabilities. Drivers for these activities include, but are not limited to: The DOT (49 CFR) and the NRC (10 CFR) regulations (see description above), as well as DOE Orders 460.1 and 460.2 (see descriptions above).

Project Status in FY 2006:

This program addresses DOE system wide transportation needs and will continue through 2006.

Post-2006 Project Scope:

This program addresses DOE system wide transportation needs and will continue beyond 2006.

Project End State

The National Transportation Program will have developed and maintained the DOE baseline transportation resources, including policy, to assure the availability of safe, regulatory compliant, economical, efficient and timely transportation for DOE materials, including radioactive and other hazardous

Project Description Narratives

materials and wastes. The NTP will have assisted programs in meeting critical DOE program goals that are dependent upon transportation for successful program execution.

Cost Baseline Comments:

The cost estimate is based upon Activity-Based Cost Estimating. The costs are based on historical program requirements and projections for new packagings and systems. The budget estimates are based upon a Departmental wide review of requirements that include a non-legacy waste base of $6,150K per year plus an assigned EM budget profile. There is no contingency in this estimate. All costs are in current year dollars (escalated at a rate of 2.1% per year). The cost will decrease over the life-cycle of the EM program at a rate approximating the decline of environmental management costs over time. The program funding will remain at its current level (adjusted for inflation) until 2006 and will be reduced by 33% until 2011 at which time it will be reduced by 50% until 2021. From 2021 until 2026 the costs will be further reduced by 66% at which time it will be reduced by 80% until 2041. From 2041 until 2046 the program costs will be reduced by 95% and will continue at that level until 2070. A spreadsheet used to calculate these costs is on file.

Assumptions:
1. Currently, general commodities represent 95 percent of all DOE shipments. No change to these levels of transport is expected. Efficiencies are likely to be obtained through evolving performance goals for contractor organizations and program metrics.
2. DOE's transportation management system will undergo substantial change in the next 10 years as large quantities of radioactive, mixed waste, and hazardous materials produced by site remediation and decommissioning are shipped for treatment and disposal. It is expected that within 5 years, the number of radioactive material shipments will increase by fourfold.
3. Changes in DOE program missions and priority will affect DOE transportation activities. A thorough understanding of DOE material flows and transportation needs will be required to address these missions.
4. Effective communication and problem resolution, both within DOE and externally, is critical to successfully accomplishing DOE's transportation mission. A process to provide more accessible information about upcoming shipments and proactive communications will need to be implemented.
5. The regulatory environment will continue to become more restrictive, adding new requirements and complexity to packages and transportation. To meet DOE program missions, an applied transportation technology program and a focused safety program will be required.

Safety & Health Hazards:

Safety & Health Work Performance:

PBS Comments:

Baseline Validation Narrative:

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General PBS Information

Project Validated? **Date Validated:**

Has Headquarters reviewed and approved project? No

Date Project was Added:

Baseline Submission Date:

FEDPLAN Project? No

Drivers:

CERCLA	RCRA	DNFSB	AEA	UMTRCA	State	DOE Orders	Other
N	N	N	N	N	N	Y	Y

Project Identification Information

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Is this a High Visibility Project (Y/N):

Planning Section

Baseline Costs (in thousands of dollars)

	1997-2006 Total	2007-2070 Total	1997-2070 Total	1997	Actual 1997	1998	Actual 1998	1999	2000	2001	2002	2003	2004	2005	2006
PBS Baseline (current year dollars)	119,211	1,052,245	1,171,456	12,394	12,832	11,393	11,884	11,417	11,753	11,753	12,000	12,252	12,509	12,772	10,968
PBS Baseline (constant 1999 dollars)	112,121	449,657	561,778	12,394	12,832	11,393	11,884	11,417	11,444	11,209	11,209	11,209	11,209	11,209	9,428
PBS EM Baseline (current year dollars)	119,211	1,052,245	1,171,456	12,394	12,832	11,393	11,884	11,417	11,753	11,753	12,000	12,252	12,509	12,772	10,968

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Baseline Costs (in thousands of dollars)

	1997-2006 Total	2007-2070 Total	1997-2070 Total	1997	Actual 1997	1998	Actual 1998	1999	2000	2001	2002	2003	2004	2005	2006
PBS EM Baseline (constant 1999 dollars)	112,121	449,657	561,778	12,394	12,832	11,393	11,884	11,417	11,444	11,209	11,209	11,209	11,209	11,209	9,428

	2007	2008	2009	2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
PBS Baseline (current year dollars)	11,198	11,433	11,674	11,919	57,461	63,753	63,356	63,744	70,724	78,469	76,998	85,430	94,785	105,164	116,680	129,457
PBS Baseline (constant 1999 dollars)	9,427	9,427	9,428	9,428	42,722	42,722	38,267	34,701	34,700	34,701	30,689	30,689	30,689	30,689	30,689	30,689
PBS EM Baseline (current year dollars)	11,198	11,433	11,674	11,919	57,461	63,753	63,356	63,744	70,724	78,469	76,998	85,430	94,785	105,164	116,680	129,457
PBS EM Baseline (constant 1999 dollars)	9,427	9,427	9,428	9,428	42,722	42,722	38,267	34,701	34,700	34,701	30,689	30,689	30,689	30,689	30,689	30,689

Baseline Escalation Rates

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
0.00%	0.00%	0.00%	2.70%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%

2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%

Project Reconciliation

Project Completion Date Changes:

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Project Reconciliation

Previously Projected End Date of Project:

Current Projected End Date of Project: 9/30/2070

Explanation of Project Completion Date Difference (if applicable):

Project Cost Estimates (in thousands of dollars)

Previously Estimated Lifecycle Cost (1997 - 2070, 1998 Dollars):		**Actual 1997 Cost:**	12,832	**Actual 1998 Cost:**	11,884
Previously Estimated Lifecycle Cost of Project (1999 - 2070, 1998 Dollars):	-24,716	**Inflation Adjustment (2.7% to convert 1998 to 1999 dollars):**			-667
Previously Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	-25,383				

Project Cost Changes

	Cost Adjustments	Reconciliation Narratives
Cost Change Due to Scope Deletions (-):		
Cost Reductions Due to Efficiencies (-):		
Cost Associated with New Scope (+):		
Cost Growth Associated with Scope Previously Reported (+):		
Cost Reductions Due to Science & Technology Efficiencies (-):		
Subtotal:	-25,383	
Additional Amount to Reconcile (+):	563,374	1997-2070 Life Cycle estimate not crosswalked to new PBS number (from HQ0440_XLS).
Current Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	**537,991**	

Milestones

Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
Project Start			7/2/1997								
Project End			9/30/2070								

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Milestones

Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
Mission completion			9/30/2070								

Milestones - Part II

Milestone/Activity	Field Milestone Code	Critical Decision	Critial Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
Project Start				Y							
Project End					Y						
Mission completion						Y					